The Apple IIc

Apple Joystick IIe and IIc
User's Instructions

Meet your new Apple Joystick. Push the stick, press the buttons, and you can manipulate games and graphics programs with ease. Ready? Follow these instructions carefully.

Installing the Joystick

1. Switch off the power and unplug the power cord from your Apple *IIe* or Apple *IIc* computer.

2. On the back of your computer, locate the game paddle port.

   ■ The Apple *IIe* game paddle port is labeled with a picture of hand controllers and is located on the left side of the computer back panel.

   ■ The Apple *IIc* game paddle port is indicated with a picture of a joystick and is the first port from the left on the computer back panel.

   ■ Plug the Joystick into this port as illustrated in Figure 1. The connector only fits one way.

3. Tighten the screws into your computer so that the plug will not work loose during operation.

4. You are now ready to adjust the joystick.
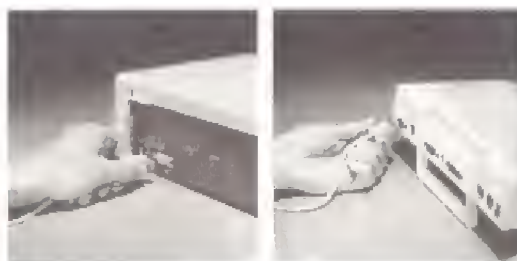
**Adjusting
the Joystick**

The joystick is a precision device which allows
you to send continuous information to your Apple
IIe or Apple IIc computer in the form of two scales
of values ranging from 0 to 255. These numbers
are read and used by the program you select.
The joystick, in combination with the program,
allows you to locate any point within this range.

**Approx-
imately
Centering
the Stick**

Many games and graphics programs do not
require that the center position of the joystick
correspond to the center of the value range.

You may prefer to make a quick adjustment and
approximately center the stick. To do this, simply
rotate the thumbwheels until the largest notch in
each wheel is in center position as you see in
Figure 2.

Accurately Centering the Stick

Some games and graphics programs require exact adjustment of the joystick so that the stick, in center position, corresponds to the center of the 0–255 range. Follow these steps if you are using such a program.

1. Insert the DOS 3.3 or ProDOS™ System Master Disk into your disk drive and turn on your computer.

2. Make sure that the stick is in center position.

3. Type in this Applesoft BASIC program and run it.

```
10 HOME
20 VTAB 6: PRINT "PDL(0)    PDL(1)"
30 IF PEEK ( – 16287) > 127 THEN
   INVERSE
40 VTAB 8: PRINT PDL(0);  . NORMAL :
   PRINT " "
50 IF PEEK ( – 16286) > 127 THEN
   INVERSE
```

```
60 VTAB 8:  HTAB 10: PRINT PDL(1);  :
   NORMAL  : PRINT " "
70 GO TO 30
RUN
```

The screen will show two columns labeled
PDL(0) and PDL(1) with numbers beneath
each. Figure 3 shows you an example of
what the screen display should look like; the
numbers in each column will vary.

PDL(0)	PDL(1)
128	128

4. Hold the joystick so that the cable end is away
   from you. Follow this sequence; it will
   demonstrate the range of the joystick. Move
   the stick all the way toward the cable end, and
   column PDL(1) will read 0. Move the stick all
   the way away from the cable end, and PDL(1)
   will read 255. Correspondingly, when you
   move the stick all the way to the left, column
   PDL(0) will read 0, and when you move it all
   the way to the right, this column will read 255.

5. Return the stick to center position. Rotate the
   thumbwheels on the underside of the joystick
   until both numbers on the screen read as
   close to 128 (the mid-point of the 0–255
   range) as you can make them.

Releasing the Stick Self-Centering Function

Your joystick, as it comes out of the box, is self-centering. This means that when you push the stick in any direction and let it go, it will return to the center position.

However, for some games and graphics applications, you will want to release the self-centering function so that you can leave the joystick in a selected position for awhile. For example, if you were drawing a star with a graphics program, you would want the cursor to remain at each point so that you could complete the outline instead of returning to the center of the star.
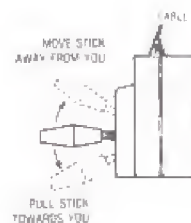
To release the centering, do the following:

1. Turn the joystick upside down. The key marks will look like those in Figure 4.

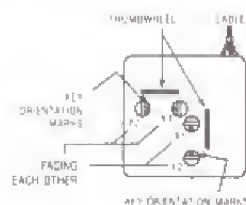Figure 4 Key Marks Set for Stick Self-Centering
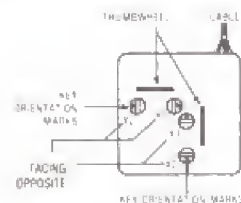
2. Pull the stick away from the cable end as shown in Figure 5. Hold the stick and rotate key mark X1 in either direction one half turn (18Ø degrees) with a small screwdriver, or even with your thumbnail.

3. Push the stick toward the cable end and rotate key mark X2 in either direction one half turn. Both X1 and X2 key marks should now be facing each other.

4. Pull the stick to the left and rotate Y1 in either direction one half turn.

5. Pull the stick to the right and rotate Y2 in either direction one half turn. All key marks should be facing each other as you see them in Figure 6.

When you want to restore the stick's self-centering function, rotate the key marks so that they are in the same position as in Figure 4. There is no need to hold the stick.

Also, you may use any combination of stick settings. Your program may work best if you use the self-centering function for stick travel in two opposite directions, and you release the self-centering function for the other two directions. Your Apple Joystick is built to accommodate this.

About the Buttons

The buttons are simple off/on input devices which may be used to run a game, draw a line, or even fire a missile, depending upon the program you choose. Go ahead, experiment! The button nearest the Apple logo is switch Ø and the other is switch 1.

For the Programmer:

Information on programming your joystick for specific applications can be found in the *Applesoft BASIC Programmer's Reference Manual.*

Now you're ready for hours of fun. Enjoy your new Apple Joystick!

Radio and Television Interference

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with these instructions, it may cause inter-

ference to radio and television.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J, Part 15, of the FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation.

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer. If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interference stops.

- Move the computer to one side or the other of the TV or radio.

- Move the computer farther away from the TV or radio.

- Make certain the computer and the TV or radio are on circuits controlled by different circuit breakers or fuses.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet prepared by the Federal Communications Commission helpful: **"How to Identify and Resolve Radio-TV Interference Problems"**. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4

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